

REMARKS

Claim Objections

Claim 51 has been objected to because of an informality ("the second interconnects" should be "the second interconnect contacts"). In response to this objection, claim 51 has been amended to correct the informality.

Rejections Under 35 USC §102 and 35 USC §103

Claims 51, 52, 54 and 56 have been rejected under 35 USC §102(e) as being anticipated by Nakayama et al. (US Patent 6,621,172).

Claims 51, 53, 56 and 77 have been rejected under 35 USC §102(e) as being anticipated by Horiuchi et al. (US Patent No. 6,731,010).

Claim 77 has been rejected under 35 USC §103(a) as being unpatentable over Nakayama et al. (US Patent 6,621,172) in view of Hayashida et al. (US Patent No. 6,767,767).

Allowable Subject Matter

Claims 55, 78, 79 and 80 have been objected to as being dependent on a rejected base claim, but would be allowable if rewritten in independent form with all of the limitations of the base claims.

Objected to dependent claim 55 has been rewritten in independent form with the limitations of claim 51. In addition, dependent claim 56 has been amended to depend on claim 55.

Further, the limitations of objected to dependent claim 78 have been added to amended independent claim 77.

Still further, objected to dependent claims 79 and 80 have been rewritten in independent form with the limitations of claim 77.

With these amendments claims 55-56 and 77-80 should be in a condition for allowance. In addition, claims 57-76 and 81-95 have been allowed.

Argument

With the above noted amendments to the claims, only claims 51, 52 and 54 stand rejected under 35 USC §102(e) over Nakayama et al. In addition, only claims 51 and 53 stand rejected under 35 USC §102(e) over Horiuchi et al.

However, independent claim 51 has been amended with the limitation of the first encapsulant comprising "a planar surface" and that the feature is "on the planar surface".

Nakayama et al. discloses the step of forming an anisotropic conductive material 74 (Figure 2) which bonds the first chip 30 (Figure 2) to the substrate 70 (column 9, lines 53-57), and the step of forming an adhesive 76 (Figure 2) which bonds the second chip 40 to the first chip 30 (column 10, lines 9-11). However, the conductive material 74 and the adhesive 76 do not form an encapsulant having a planar surface with a feature which facilitates bonding to the encapsulant.

In view of these differences, amended independent claim 51, and dependent claims 52 and 54, are submitted to be novel and unobvious over Nakayama et al.

Horiuchi et al. discloses the step of forming an underfill layer 37 (Figure 4) between "the bottom layer chip 25 and the via layer 51 and the clearance between it and the top surface 23A of the printed circuit board" (column 10, lines 64-66). However, the underfill layer 37 (Figure 4) does not form a planar surface with a feature thereon for attaching the top layer chip 55. Rather, the top layer chip 55 is attached to the back surface of the bottom layer chip 25. In this regard, please note column 10, lines 61-63 of Horiuchi et al. which states: "by coating a resin 52 in the semicured state to the back

surface of the bottom layer chip 25, placing the top layer chip 55 on the resin layer 52, then curing the resin layer 52".

In Horiuchi et al. the underfill layer 37 is not an encapsulant for the bottom layer chip 25 having a planar surface for the top layer chip 55. Further, the resin 52 is on the back of the bottom layer chip 25, and not on a planar surface formed by the underfill layer 37. In this regard, please note Figure 4 of Horiuchi et al. wherein the resin 52 does not touch the underfill layer 37, but rather only touches the back of the bottom layer chip 25.

In view of these differences amended independent claim 51, and dependent claim 53, are submitted to be novel and unobvious over Horiuchi et al.

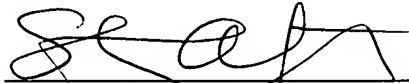
Conclusion

Even though this is an Amendment After Final, entry of the amendments is requested, as the amendments place the claims in a condition for allowance.

In view of the amendments and arguments, favorable consideration and allowance of claims 51-95 is respectfully requested. Should any issues arise that will advance this case to allowance, the Examiner is asked to contact the undersigned by telephone. An IDS is also being filed with this Amendment.

DATED THIS 6TH DAY OF MAY 2005.

Respectfully submitted:



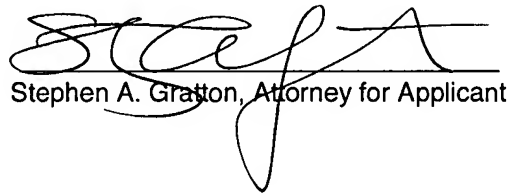
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May 6, 2005
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